Artificial Mammalian Chromosome

Abstract

The invention relates to the field of gene therapy, gene expression, and vectors for these uses. In particular, the invention relates to the development and use of an artificial or synthetic chromosome for gene expression and gene therapy in mammals, and especially humans. The invention allows the controlled construction of stable synthetic or artificial chromosomes constructed from isolated segments of purified DNA. Functional minimal segments preferably include centromeric DNA, telomeric DNA, and genomic DNA. The artificial chromosome performs the essential chromosomal functions of naturally-occurring chromosomes so as to permit the chromosome to function as an effective vector for gene therapy.

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